SEQUENCE LISTING

<110> Pan, Shuchong
      Simari, Robert D.

<120> Isoforms of Brain Natriuretic Peptide

<130> 07039-409US1

<140> US 10/561,014
<141> 2005-12-16

<150> PCT/US2004/017554
<151> 2004-06-02

<150> US 60/480,460
<151> 2003-06-20

<160> 38

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 33
<212> PRT
<213> Homo sapiens

<400> 1
Gly Lys His Pro Leu Pro Pro Arg Pro Pro Ser Pro Ile Pro Val Cys
 1   5   10   15
Asp Thr Val Arg Val Thr Leu Gly Phe Val Val Ser Gly Asn His Thr
            20   25   30
Leu

<210> 2
<211> 14
<212> PRT
<213> Homo sapiens

<400> 2
Val Val Gln Lys Glu Asn Gln Thr Phe Pro Pro Gly Phe Leu
 1   5   10

<210> 3
<211> 162
<212> PRT
<213> Homo sapiens

<400> 3
Met Asp Pro Gln Thr Ala Pro Ser Arg Ala Leu Leu Leu Leu Leu Phe
 1   5   10   15
Leu His Leu Ala Phe Leu Gly Gly Arg Ser His Pro Leu Gly Ser Pro
            20   25   30
Gly Ser Ala Ser Asp Leu Glu Thr Ser Gly Leu Gln Glu Gln Arg Asn

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                35                      40                      45
His Leu Gln Gly Lys Leu Ser Glu Leu Gln Val Glu Gln Thr Ser Leu
        50                      55                      60
Glu Pro Leu Gln Glu Ser Pro Arg Pro Thr Gly Val Trp Lys Ser Arg
65                      70                      75                      80
Glu Val Ala Thr Glu Gly Ile Arg Gly His Arg Lys Met Val Leu Tyr
                    85                      90                      95
Thr Leu Arg Ala Pro Arg Ser Pro Lys Met Val Gln Gly Ser Gly Cys
                100                     105                     110
Phe Gly Arg Lys Met Asp Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys
                115                     120                     125
Lys Gly Lys His Pro Leu Pro Pro Arg Pro Pro Ser Pro Ile Pro Val
        130                     135                     140
Cys Asp Thr Val Arg Val Thr Leu Gly Phe Val Val Ser Gly Asn His
145                     150                     155                     160
Thr Leu
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<210> 4
<211> 143
<212> PRT
<213> Homo sapiens

<400> 4

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Met Asp Pro Gln Thr Ala Pro Ser Arg Ala Leu Leu Leu Leu Leu Phe
1               5                       10                      15
Leu His Leu Ala Phe Leu Gly Gly Arg Ser His Pro Leu Gly Ser Pro
            20                      25                      30
Gly Ser Ala Ser Asp Leu Glu Thr Ser Gly Leu Gln Glu Gln Arg Asn
        35                      40                      45
His Leu Gln Gly Lys Leu Ser Glu Leu Gln Val Glu Gln Thr Ser Leu
        50                      55                      60
Glu Pro Leu Gln Glu Ser Pro Arg Pro Thr Gly Val Trp Lys Ser Arg
65                      70                      75                      80
Glu Val Ala Thr Glu Gly Ile Arg Gly His Arg Lys Met Val Leu Tyr
                    85                      90                      95
Thr Leu Arg Ala Pro Arg Ser Pro Lys Met Val Gln Gly Ser Gly Cys
                100                     105                     110
Phe Gly Arg Lys Met Asp Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys
                115                     120                     125
Lys Val Val Gln Lys Glu Asn Gln Thr Phe Pro Pro Gly Phe Leu
        130                     135                     140
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<210> 5
<211> 489
<212> DNA
<213> Homo sapiens

<400> 5

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tccgggttac aggagcagcg caaccatttg cagggcaaac tgtcggagct gcaggtggag       180
cagacatccc tggagcccct ccaggagagc ccccgtccca caggtgtctg gaagtcccgg       240
gaggtagcca ccgagggcat ccgtgggcac cgcaaaatgg tcctctacac cctgcgggca       300
ccacgaagcc ccaagatggt gcaagggtct ggctgctttg gaggaagat ggaccggatc        360
agctcctcca gtggcctggg ctgcaaaggt aagcacccccc tgccaccccg gccgccttcc     420
cccattccag tgtgtgacac tgttagagtc actttggggt tgttgtctc tgggaaccac        480
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<212> DNA
<213> Homo sapiens

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ttcctgggag gtcgttccca cccgctgggc agccccggtt cagcctcgga cttggaaacg   120
tccgggttac aggagcagcg caaccatttg cagggcaaac tgtcggagct gcaggtggag   180
cagacatccc tggagcccct ccaggagagc ccccgtccca caggtgtctg gaagtcccgg   240
gaggtagcca ccgagggcat ccgtgggcac cgcaaaatgg tcctctacac cctgcgggca   300
ccacgaagcc ccaagatggt gcaagggtct ggctgctttg ggaggaagat ggaccggatc   360
agctcctcca gtggcctggg ctgcaaagtg gtgcagaaag agaaccaaac atttcctcct   420
ggtttcctct aa   432

<210> 7
<211> 44
<212> PRT
<213> Pongo pygmaeus

<400> 7
Gly Glu His Pro Leu Pro Pro Arg Leu Pro Ala Pro Ile Pro Val Cys
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Asp Thr Val Arg Val Thr Leu Gly Phe Val Val Ser Gly Asn His Thr
                20   25   30
Leu Arg Lys Cys His Leu Asp Ile Thr Ser Ser Cys
            35   40

<210> 8
<211> 58
<212> PRT
<213> Sus scrofa

<400> 8
Gly Glu His Pro Pro Pro Phe Pro Leu His Ala Pro Val Ser Ile Thr
1   5   10   15
Ser Gly Phe Asp Val Ser Gly Asp Gln Thr Pro Arg Lys Gly His Leu
                20   25   30
Asp Ile Thr Leu Ser Cys Cys Gln Ser Ser Arg Pro Arg Ser Ala Phe
            35   40   45
Leu Glu Lys Leu Asn Leu Asp Ser Ile His
        50   55

<210> 9
<211> 33
<212> PRT
<213> Pan troglodytes

<400> 9
Gly Glu His Pro Leu Pro Pro Arg Pro Pro Ser Pro Ile Pro Val Cys
1   5   10   15
Asp Thr Val Arg Val Thr Leu Gly Phe Val Val Ser Gly Asn His Thr
                20   25   30
Leu

<210> 10
<211> 78
<212> PRT
<213> Ovis aries

<400> 10
Gly Glu Arg Leu Ser Ala Phe Pro Leu His Ile Thr Ile Arg Ala Thr
1   5   10   15
Ser Gly Ser Asp Val Ser Gly Asp Gln Ile Leu Asn Lys Glu His His
            20   25   30
Ser Ser Leu Leu Ala Val Leu Arg Ala Lys Ala Cys Leu Ser Gly Asn
            35   40   45
Ile Lys Phe Gly Gln His Ser Leu Ser Cys Leu Gly Ala Pro Ser Ile
        50   55   60
His Leu Leu Pro Leu Thr Glu Arg Gly Arg Ile Phe Arg Met
65   70   75

<210> 11
<211> 26
<212> PRT
<213> Mus musculus

<400> 11
Gly Glu His Leu Pro Cys His Phe Pro Ala Lys Leu His Thr His Pro
1   5   10   15
Ile Pro Val His Ala Thr Leu Arg Gly Pro
            20   25

<210> 12
<211> 33
<212> PRT
<213> Gorilla gorilla

<400> 12
Gly Glu His Pro Leu Pro Pro Arg Pro Pro Ser Pro Ile Pro Val Cys
1   5   10   15
Asp Thr Val Arg Val Thr Leu Gly Phe Val Val Ser Gly Asn His Thr
            20   25   30
Leu

<210> 13
<211> 86
<212> PRT
<213> Felis catus

<400> 13
Gly Lys Pro Pro Pro Cys Gln Leu Asp Pro Pro Ala Pro Leu Leu Trp
1   5   10   15
Val Pro Pro Ser Glu Pro Leu Leu Gly Leu Leu Ser Leu Gly Thr Asn
            20   25   30
Ser Glu Lys Lys Thr Leu Gly Leu Tyr Ser Leu Leu Leu Thr Val Leu
            35   40   45
Lys Ala Lys Gly Arg Leu Ser Gly Asn Ile Lys Cys Gly His His Ser
        50   55   60
Leu Leu Cys Pro Pro Arg Val Thr His Leu Leu Leu Pro Leu Trp Pro

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65                      70                  75                      80
Lys Gly Ala Glu Ser Pro
                    85


<210> 14
<211> 169
<212> PRT
<213> Canis familiaris


<400> 14
Met Glu Pro Cys Ala Ala Leu Pro Arg Ala Leu Leu Leu Leu Phe
1               5                   10                  15
Leu His Leu Ser Pro Leu Gly Gly Arg Pro His Pro Leu Gly Gly Arg
            20                  25                  30
Ser Pro Thr Ser Glu Ala Ser Glu Ala Ser Glu Ala Ser Gly Leu Trp
            35                  40                  45
Ala Val Gln Glu Leu Leu Gly Arg Leu Lys Asp Ala Val Ser Glu Leu
        50                  55                  60
Gln Ala Glu Gln Leu Ala Leu Glu Pro Leu His Arg Ser His Ser Pro
65                  70                  75                  80
Ala Glu Ala Pro Glu Ala Gly Glu Glu Arg Pro Val Gly Val Leu Ala
                85                  90                  95
Pro His Asp Ser Val Leu Gln Ala Leu Arg Arg Leu Arg Ser Pro Lys
                100                 105                 110
Met Met His Lys Ser Gly Cys Phe Gly Arg Arg Leu Asp Arg Ile Gly
            115                 120                 125
Ser Leu Ser Gly Leu Gly Cys Asn Gly Lys Pro Pro Pro Cys His Leu
        130                 135                 140
Gly Ser Pro Ser Pro Ala Pro Trp Val Arg Pro Leu Glu Pro Leu Leu
145                 150                 155                 160
Gly Leu Leu Ser Arg Gly Ile Thr Leu
                165


<210> 15
<211> 15
<212> PRT
<213> Dendoaspis angusticeps


<400> 15
Pro Ser Leu Arg Asp Pro Arg Pro Asn Ala Pro Ser Thr Ser Ala
1               5                   10                  15


<210> 16
<211> 32
<212> PRT
<213> Homo sapiens


<400> 16
Ser Pro Lys Met Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp
1               5                   10                  15
Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys Lys Val Leu Arg Arg His
            20                  25                  30


<210> 17
<211> 41
<212> PRT
<213> Dendroaspis angusticeps
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<400> 17
Glu Val Lys Tyr Asp Pro Cys Phe Gly His Lys Ile Asp Arg Ile Asn
 1   5   10   15
His Val Ser Asn Leu Gly Cys Pro Ser Leu Arg Asp Pro Arg Pro Asn
            20   25   30
Ala Pro Ser Thr Ser Ala Asp Asn Pro
        35   40

<210> 18
<211> 28
<212> PRT
<213> Homo sapiens

<400> 18
Ser Leu Arg Arg Ser Ser Cys Phe Gly Gly Arg Met Asp Arg Ile Gly
 1   5   10   15
Ala Gln Ser Gly Leu Gly Cys Asn Ser Phe Arg Tyr
            20   25

<210> 19
<211> 22
<212> PRT
<213> Homo sapiens

<400> 19
Gly Leu Ser Lys Gly Cys Phe Gly Leu Lys Leu Asp Arg Ile Gly Ser
 1   5   10   15
Met Ser Gly Leu Gly Cys
            20

<210> 20
<211> 34
<212> PRT
<213> Artificial Sequence

<220>
<223> exemplary motif

<221> VARIANT
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<221> VARIANT
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<223> Xaa = Pro, His, or Arg

<221> VARIANT
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<223> Xaa = Pro or Leu

<221> VARIANT
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<223> Xaa = Pro, Leu, or Ser

<221> VARIANT
<222> 6

<223> Xaa = Cys or Pro

<221> VARIANT
<222> 7
<223> Xaa = Pro, His, Gln, or Arg

<221> VARIANT
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<223> Xaa = Arg, Phe, or Leu

<221> VARIANT
<222> 9
<223> Xaa = Asp, Gly, or absent

<221> VARIANT
<222> 10
<223> Xaa = Ser, Pro, or Leu

<221> VARIANT
<222> 11
<223> Xaa = Pro or absent

<221> VARIANT
<222> 12
<223> Xaa = Ser, Ala, or absent

<221> VARIANT
<222> 13
<223> Xaa = Pro or Ala

<221> VARIANT
<222> 14
<223> Xaa = Ala, Phe, Ile, or Leu

<221> VARIANT
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<223> Xaa = Pro, Lys, or Leu

<221> VARIANT
<222> 16
<223> Xaa = Val, Leu, or Trp

<221> VARIANT
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<223> Xaa = Cys, His, or Val

<221> VARIANT
<222> 18
<223> Xaa = Asp, Ala, Ile, Thr, Pro, or Arg

<221> VARIANT
<222> 19
<223> Xaa = Thr, Pro, or His

<221> VARIANT
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<223> Xaa = Val, Ile, Pro, Val, Ser, or Leu

<221> VARIANT
<222> 21
<223> Xaa = Arg, Ser, Ile, or Glu

<221> VARIANT
<222> 22
<223> Xaa = Val, Ile, Ala, or Pro

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<223> Xaa = Thr, Val, or Leu

<221> VARIANT
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<223> Xaa = Leu, Ser, or His

<221> VARIANT
<222> 25
<223> Xaa = Gly or Ala

<221> VARIANT
<222> 26
<223> Xaa = Phe, Ser, Thr, or Leu

<221> VARIANT
<222> 27
<223> Xaa = Val, Asp, or Leu

<221> VARIANT
<222> 28
<223> Xaa = Val, Leu, or Ser

<221> VARIANT
<222> 29
<223> Xaa = Ser, Arg, or Leu

<221> VARIANT
<222> 31
<223> Xaa = Asn, Asp, Pro, or Thr

<221> VARIANT
<222> 32
<223> Xaa = His, Gln, Asn, or Thr

<221> VARIANT
<222> 33
<223> Xaa = Thr, Ile, or Ser

<221> VARIANT
<222> 34
<223> Xaa = Pro, Leu, or Glu

<400> 20
Gly Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

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1               5                       10                      15
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Xaa Xaa
            20                      25                      30
Xaa Xaa
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<210> 21
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 21
agacatggat ccccagacag                                              20

<210> 22
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 22
caagaggaag cgatgtccag                                              20

<210> 23
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 23
ttctctccag cgacatggag                                              20

<210> 24
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 24
ggactctttc tgctccaagg                                              20

<210> 25
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer
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<400> 25
agacatggat ccccagacag   20

<210> 26
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 26
tttctgcacc actttgcagc   20

<210> 27
<211> 20
<212> DNA
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<220>
<223> Primer

<400> 27
gagtcaacgg atttggtcgt   20

<210> 28
<211> 20
<212> DNA
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<220>
<223> Primer

<400> 28
ttgattttgg agggatctcg   20

<210> 29
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 29
cttcttgcat ctggctttcc   20

<210> 30
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<212> DNA
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<220>
<223> Primer

<400> 30

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agggatgtct gctccacct                                           19
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<210> 31
<211> 21
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<213> Artificial Sequence

<220>
<223> Primer

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<210> 32
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 32
gaaggtattg tgggcatggt                                          20

<210> 33
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 33
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<210> 34
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 34
ttctgcacca ctttgcagc                                           19

<210> 35
<211> 41
<212> PRT
<213> Homo sapiens

<400> 35
Ser Pro Lys Met Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp
 1               5                   10                  15
Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys Lys Val Val Gln Lys Glu
            20                  25                  30
Asn Gln Thr Phe Pro Pro Gly Phe Leu
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<210> 36
<211> 60
<212> PRT
<213> Homo sapiens

<400> 36
Ser Pro Lys Met Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp
 1   5   10   15
Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys Lys Gly Lys His Pro Leu
            20   25   30
Pro Pro Arg Pro Pro Ser Pro Ile Pro Val Cys Asp Thr Val Arg Val
            35   40   45
Thr Leu Gly Phe Val Val Ser Gly Asn His Thr Leu
    50   55   60

<210> 37
<211> 32
<212> PRT
<213> Canis familiaris

<400> 37
Gly Lys Pro Pro Pro Cys Arg Leu Gly Ser Pro Ser Pro Ala Pro Trp
 1   5   10   15
Val Arg Pro Leu Glu Pro Leu Leu Gly Leu Leu Ser Arg Gly Ile Thr
            20   25   30

<210> 38
<211> 510
<212> DNA
<213> Canis familiaris

<400> 38
atggagccct gcgcagcgct gccccgggcc ctcctgctcc tcctgttctt gcacctgtcg   60
ccactcggag gccgccccca cccgctgggc ggccgcagcc ccacctcgga agcctcggaa   120
gcctcggaag cctcggggtt gtgggccgtg caggagctgc tgggccgtct gaaggacgca   180
gtttcagagc tgcaggcaga gcagttggcc ctggaacccc tgcaccggag ccacagcccc   240
gcagaagccc cggaggccgg ggaggaacgc cccgtggggg tccttgcacc ccatgacagt   300
gtcctccagg ccctgagaag actacgcagc cccaagatga tgcacaagtc agggtgcttt   360
ggccggaggc tggaccggat cggctccctc agtggcctgg gctgcaatgg taagccgcct   420
ccctgccacc ttggctcccc ctccccagcc ccctgggttc gacccttgga accccttctg   480
ggtttgttgt ctcggggggat cacactctga   510